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INTRODUCTION

The under achievement of girls at secondary school level in Zimbabwe is a problem which has its roots in the Colonial Era when access to higher levels of schooling for Black pupils was extremely restricted for both sexes. Only ten percent of primary school leavers entered secondary school and two percent reached Form IV.[1] At the Form IV level the ratio of boys to girls was 3:1. Similar sex ratios have been reported by other researchers in Africa.[2] In fact in most of Africa south of the Sahara the education of girls has lagged considerably behind that of boys.[3]

In this paper the effects of gender and academic attainment, educational and career aspirations as well as access to schooling will be examined both before and after independence. Cultural and economic factors which contribute to gender differences in secondary school pupils attainment and aspirations will be considered and the extent to which these have persisted despite greater access to schooling since independence.

The Effect of Early Socialization and Cultural Expecta - tions

An important factor in the imbalance of the sexes in secondary school seems to be the attitude of society, reflected in the parents, towards the education of girls and the self image which girls have as a result of cultural conditioning. A daughter is valued in traditional Zimbabwean society as a potential economic asset due to the bride price paid for her on her marriage. An old Shona proverb says, "He is poor who has no daughters." Thus from an early age daughters are groomed for their marriage roles of wife, mother and food provider for the family. According to Garwe (1969)[4] fathers are sometimes reluctant to educate daughters as the following comments illustrate.

> "What! Waste my money educating a girl who is going to work and enrich another man. A woman is a woman educated or not. She is a better woman when not educated."
>
> "I would never marry an educated woman because she demands too much. This is one reason why my daughters will not go beyond Grade 7."
>
> "My wife never went to school but she can cook and keep my house clean. This is what all women should be – good house wives."

It is from the home and community that girls initially acquire an image of themselves and of their role in society as adults. Such an image, made up of stereotyped ideas like those quoted above, is a hindrance to girls' interest in higher education. They are conditioned from an early age to believe that woman is inferior to man; that her place is in the home and field; that she is there for the pleasure of the man; to bear children and to be seen and not heard. The expected blind obedience and submission inhibit the development of initiative and independent thought. Many girls grow up to believe in and accept inferiority. Komarovsky (1953) points out that the most important factor affecting the achievement of women is not the external environment (poverty or other handicaps) but,

> It is the inner environment, the self-image and the level of aspirations, which is at the root of motivation. This self-image subtly moulded by society, has been, and still is inimical to the full development of whatever creativity women possess.[5]

Girls, on the whole, have greater social and psychological disabilities than boys and this affects both their opportunity for education and their achievement in school.

The problem of the inequality of the sexes is not peculiar to Zimbabwe or even Africa but has been and still is prevalent in both western and non-western societies throughout the world. The degree of inequality is perhaps less in the developed countries but it has not been eradicated.[6]

In Africa research has shown that girls who do proceed to higher levels of education tend to come from higher socio-economic backgrounds than boys.[7] A study of secondary school pupils in Zimbabwe prior to independence confirms this finding, as Table 1 shows.[8]

TABLE 1

Socio-Economic Status of Secondary School Pupils in Zimbabwe (Before Independence)

Social Status (Score)	Boys	Girls	Total
	%	%	%
High (15-20)	18,8	35,4	22,8
Middle (10-14)	58,2	55,4	57,5
Low (0-9)	23,0	9,2	19,7
Total	100,0	100,0	100,0
Number	1 802	567	2 369

No Response 7,4 (188)
CHI SQUARE 2df $p < ,001$ $C = 0,20$

The higher socio-economic status of girls may indicate that educated parents have acquired more modern values and are interested in educating their daughters as well as their sons - and have the means to do so. The economic factor is an important one because when resources are limited, poor families often have to choose between educating sons or daughters. The boys are inevitably selected because they represent an investment in the social security of the parents since they are expected to care for parents in their old age while daughters marry into other families and become an economic asset to them.

Gender Differences in Educational, Occupational Aspirations and Academic Attainment

Prior to independence in 1980 access to secondary education was very limited with those who completed Form IV representing two percent of the school population and therefore constituting an elite group in society. There were fewer girls in school and the ratio of boys to girls at Form IV level was 3:1. Although, as has been pointed out, girls came from a higher SES background than boys this did not influence their educational aspirations in the predicted direction. Boys, regardless of class had high aspirations with 64,9 percent aspiring to go to University while only 27 percent of girls had such ambitions. The majority of girls (67 percent) preferred to undertake a training course after high school leading to a nursing or teaching career (see Table 2).

TABLE 2

Educational Aspirations of Form IV Pupils by Gender

Educational Aspirations	Boys	Girls	Total
	%	%	%
Form IV	2,4	5,1	3,1
Form IV and Training	19,6	51,8	27,6
Form VI and Training	12,0	15,2	12,8
University	64,9	27,1	55,5
No response	1,1	0,8	1,0
Total	100,0	100,0	99,9
Number	1 793	591	2 384

CHI-SQUARE = 294,408 P< ,001 C = 0,33

Occupational opportunity for girls tended to be limited to teaching and medicine and this limitation is reflected in their aspirations with 81 percent aspiring to enter these professions. The aspirations of boys while concentrated in the teaching and medical fields had a wider spread than that of girls. A significant number, 16 percent aspired to technical and skilled jobs (see Table 3).

There is some evidence to suggest that certain occupational choices are related to socio-economic background. For example boys of low socio-economic status were more likely to choose teaching as a career while twice as many boys of high status selected medicine as a career. In this survey girls of high status more frequently preferred to become teachers and doctors while girls of low and middle status preferred nursing as a career.[10]

TABLE 3

Occupational Aspirations of Form IV Secondary School Pupils by Gender

Boys		Girls	
Occupation	Form IV	Occupation	Form IV
	%		%
Teacher	33,9	Nurse	55,5
Doctor	14,8	Teacher	15,1
Engineer	15,4	Doctor	10,3
Technician	4,8	Technician	5,8
Skilled Trades	4,9	Social Worker	5,1
Nurse	4,1	Secretary	1,7
Lawyer	3,1	Air Hostess	1,7
Other - Professional	2,2	Clerk - Typist	1,2
Railway Worker	2,7	Lawyer	0,8
Accountant	1,5	Accountant	0,7
Other - Executive	1,7	Other - Professional	0,3
Social Worker	1,1	Other	1,2
Clerk	1,1	Don't know	0,2
Salesman	1,1	No Response	0,5
Clergy	1,0		
Demonstrator (Agric.)	2,9	Total	100,1
Manager	0,3		
Book-keeper	0,4	Number	591
Other	2,2		
Any kind of job	0,3		
Don't know	0,1		
No response	0,6		
Total	100,2		
Number	1 793		

N.B. Under "Other" no category was selected by more that four pupils.

Academic Achievement and Gender

The criterion of academic achievement for pupils in this study was based on their results in the Cambridge School Certificate Examination (0-level). Although this criterion may not be a perfect measure of each individuals' academic ability, it is the criterion used for selection for higher education and for occupational selection. As the following Table shows, prior to independence this highly selected group of pupils did extremely well in this examination with 96,0 percent achieving a full certificate and over one-third achieving a first division pass. There was no significant gender difference with regard to academic attainment even though girls came from a higher SES background (see Table 4).

TABLE 4

Academic Achievement of Form IV Pupils
Cambridge School Certificate (0-level)

Examination Results	Form IV		
	Boys	Girls	Total
	%	%	%
Division 1 Pass	37,9	35,9	37,4
Division 2 Pass	39,2	42,8	40,1
Division 3 Pass	18,6	18,1	18,5
Division 4	2,8	2,5	2,8
Fail	0,3	0,2	1,0
Did not write	1,2	0,5	1,0
Total	100,0	100,0	100,1
Number	1 793	591	2 384

CHI-SQUARE = 3,432 p > ,30

Although girls performed as well academically as boys in this examination, their aspirations for higher education were much lower. Less than half (46 percent) of those who qualified to enter Form VI and ultimately go to University actually aspired to do so.[11]

Another factor which may depress the aspirations of girls is the fact that although girls performed as well as boys in the examination, a follow up study showed, that a higher percentage of girls than boys were unemployed and fewer girls than boys continued their education (see Table 5).[12]

TABLE 5

Post-School Status of Form IV School Leavers

Post-School Status (One Year Later)	Form IV	
	Male	Female
	%	%
Employed	12,9	8,0
In School	23,8	22,7
Unemployed	50,9	58,2
No Response	12,4	11,2
Total	100,0	100,1
Number	1 793	591

What this study shows thus far is that during the Colonial Era in Zimbabwe, when the educational and occupational systems discriminated against Black secondary school pupils as a whole, girls were more disadvantaged than boys. Fewer girls completed secondary school, their educational aspirations were lower than boys and opportunities for employment were more restricted even though academically they performed as well as boys at the Form IV level.

Post-Independence: Gender, Equality of Access to Secondary Education and Academic Achievement

When the first Black majority government came to power in Zimbabwe in 1980, it sought to re-dress the inequalities in education which had prevailed during the Colonial era. Thus there was a vast expansion in the educational system at all levels but particularly at the secondary school level. This was accompanied by a policy shift from an elite system to one of mass education. Government policy also sought to abolish racial education and sex discrimination in the educational system.

The policy to provide universal access to primary and secondary education has meant that enrolment in the primary sector has risen from 819 586 at independence to 2 263 947 seven years later, an increase index of 2.76. It is estimated that 97 percent of children of primary school age begin school. At secondary school level there has been an even greater enrolment explosion with an increase from 66 215 in 1979 to 537 427 in 1986, or an increase index of 8.12. The transition rate from primary to secondary is approximately 80 percent.[13]

The rapid expansion in the educational system has been accompanied by a number of problems which have affected the overall quality of education, particularly, at the secondary school level. The main problems are: a shortage of trained teachers, a shortage of adequate buildings and support services and equipment and, despite a massive increase in public expenditure for education, a shortage of adequate finance for the vast expansion.

The Ministry of Education has affirmed the need to maintain high standards in education while at the same time expanding education for all. Another policy has been that all pupils in secondary school write the same final examination, the Cambridge O-level, regardless of ability.

The first non-selective intake wrote A-Levels in 1984 with a national pass rate of 20,6 percent. This was a decline of 30 percent from the previous year. As the number of candidates increased over the seven year period 1980 – 1986 the percentage achieving an O-level certificate steadily declined from 66,6 percent in 1980 to 11,4 percent in 1986. It should be noted that although the percentage of pupils achieving an O-level certificate has declined, because of the increased enrolment the actual numbers have more than tripled from 4 000 in 1980 to 14 566 in 1986.

In this section of the paper we now want to examine the extent to which the expanded system of education has provided girls with greater access to education and particularly secondary education. The second aspect of gender that will be considered

is the academic achievement of girls compared with that of boys in the secondary school final examinations, the Cambridge Certificate Ordinary Level (O-levels).

Gender and Access 1981–1985

More boys than girls attend primary school. The difference is relatively small in Grades 1 – 4 but after that girls drop out in greater numbers and the difference is more pronounced in grades 5 – 7. Fewer girls than boys continue to secondary school. As a result of this and due to further wastage of girls from Form 1 - 3, in 1985 approximately 62% of the pupils in Form IV were boys and 38% were girls.[14] This is an improvement from the Colonial era when the ratio of boys to girls was 3:1, at Form IV, however, the imbalance is still cause for concern and shows clearly that girls are disadvantaged in access to the educational rewards of the society even after independence and with a definite policy by government to eliminate gender inequalities in education. It also might be inferred from Table 6 that as enrollments increase the percentage of girls in Form IV decreases (see Table 6).

TABLE 6

Form IV Enrolment by Gender

1980 - 1985

Year	Boys	Girls	Total Enrolment
	%	%	
1981	56,5	43,5	15,323
1982	58,7	41,3	15,772
1983	57,4	42,6	24,509
1984	62,0	38,0	71,014
1985	62,0	38,0	89,517

Sources: Zimbabwe Government Statistical Yearbook 1987, p.64

Gender and Academic Achievement

It has already been noted that the overall pass rate in the O-level examination has declined as school enrollments have increased.[15] In addition, the pass rate for girls is considerably lower than that for boys. In 1986 and 1987 approximately 7 percent of girls passed five or more subjects and earned a Cambridge School Certificate versus 15 percent for boys (see Tables 7 and 8).

Table 7

Cambridge School Certificate O-level 1986

Number of Subjects passed by Gender

NO OF SUBJECTS PASSED	BOYS		GIRLS		TOTAL	
	N	%	N	%	N	%
5 or more	11 355	15,0%	3 210	6,7%	14 565	11,8%
4 or less	64 299	85,0%	44 519	93,3%	108 818	88, 2%
Total	75 654	100,8	47 729	100,0	123 383	100,0

Chi-square = 192.311 Df 1 C = .124
N.B. Five or more subject passes are necessary to achieve an O-level certificate.

TABLE 8

Cambridge School Certificate O Level 1987

Number of Subjects Passed by Gender

NO OF SUBJECTS PASSED	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
5 or more	13751	15.5	4319	7.4	18070	12.3
4 or less	75067	84.5	54225	92.6	129292	87.7
TOTAL	88818	100	58544	100	147362	100

CHI-SQUARE = 215.338 Df 1 C = .120

N.B. Five or more subject passes are necessary to achieve an O Level Certificate.

The performance of boys in individual subjects was better than girls except in three areas, the vernacular language (Shona) in which girls performed slightly better than boys. Also girls out performed boys in Physics and Chemistry. Although comparatively few pupils write these subjects, girls do very well.[16] It is assumed that only the best science students attempt these subjects and are therefore highly selected.

As is common elsewhere in both developed and developing countries girls did not do well in mathematics and other science subjects. In mathematics even when they pass the quality of pass will tend to be in the lower category of 'C'. (see Table 9)

Further evidence on the quality of passes indicates that for 1986 and 1987 of those candidates who achieved five or more distinctions (grade A) the vast majority were boys, 82% in 1986 and 74% in 1987 (see Table 10).

Thus in Zimbabwe, as elsewhere in the world, differential patterns of educational attainment for boys and girls persist. Where the system is under stress due to rapid expansion since independence, girls' achievement is more affected than that of boys'.

Possible Reasons for Gender Differences in Attainment

There is no scientific evidence that gender differences in attainment are due to inherent differences in ability and inherent interests. It is assumed by most psychologists that intelligence is normally distributed for both sexes. Theoretical explanations for differences tend to focus on socialization and cultural expectation patterns which differ for boys and girls. Cultural conditioning which begins in the home maybe continued in the school environment so that as Finn points out,

> Formal schooling is itself a significant agent in teaching and reinforcing cultural expectations for males and females.[17]

Table 9

Cambridge School Certificate 1985

Percentage of O-Level Passes (Grade C and Better) by Subject and Gender

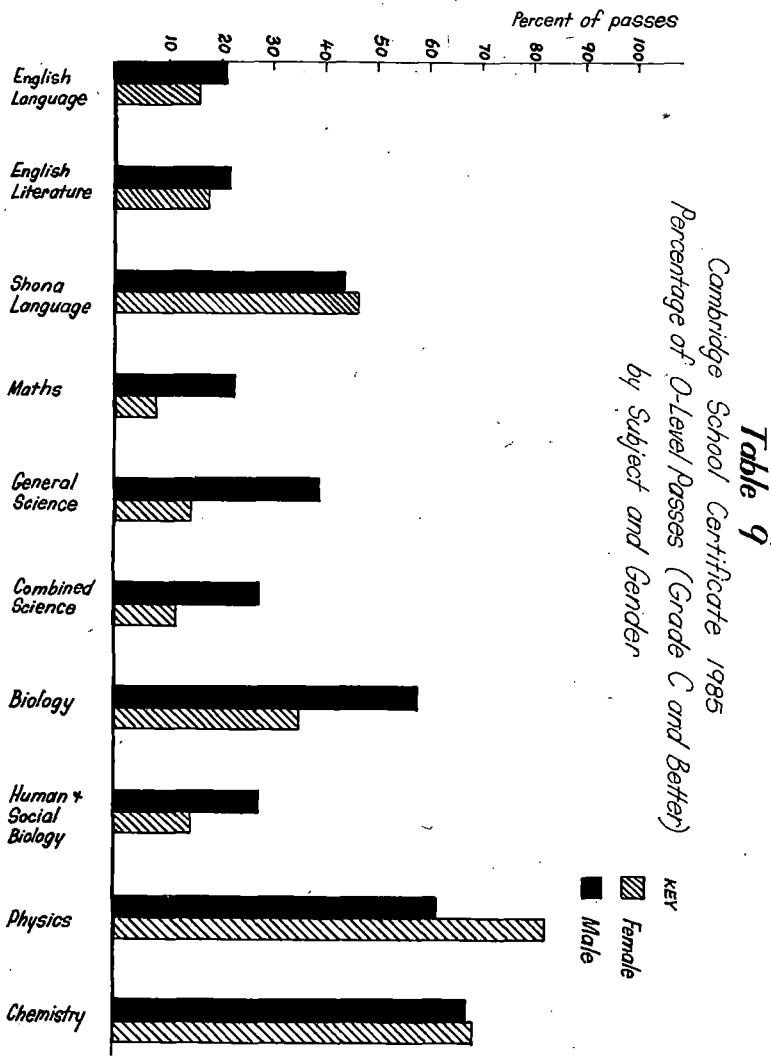

TABLE 10

Cambridge Certificate (O-Level)

CANDIDATES WITH 5 OR MORE DISTINCTIONS (5 A's) FOR 1986 AND 1987

YEAR	CANDIDATES WITH FIVE OR MORE DISTINCTIONS				
	GIRLS		BOYS		TOTAL
	NUMBER	%	NUMBER	%	NUMBER
1987	165	26	480	74	645
1986	82	18	374	82	456

YEAR	TOTAL NUMBER WITH FIVE DISTINCTIONS AS % OF TOTAL NUMBER WITH 5 PASSES	TOTAL NUMBER OF CANDIDATES WITH 5 PASSES (C OR BETTER)
1987	3,5	18 124
1986	3,1	14 677

Three areas of secondary socialisation in the school are identified as possible sources of reinforcing cultural expectations and are potential causes of differences in attainment. These are:

- 1) the modeling of sex-appropriate behaviour,
- 2) the exposure of students to specific curricular content, and
- 3) the differential academic support provided to boys and girls.

One way that children learn their gender roles is by observing and imitating adult roles, first in the home and later in school they may also imitate teachers and administrators. They

also observe the ratio of boys to girls and the authority structure in the school. Sex-appropriate behaviour is also learned through positive and negative sanctions and through textbooks.

It has been found that academic achievement is higher in single-sex schools in Zimbabwe than in co-educational schools.[18] This association while significant for both sexes was stronger for girls than boys. In single-sex schools 22,8 percent of the Form IV girls qualified for entrance into Sixth Form while only 4,7 percent of girls in co-educational schools managed to obtain the necessary grades. It may be that same-sex role models provided in single sex schools give greater academic support which may encourage higher achievement. Other cultural factors such as girls not having to compete with boys may permit them to develop their abilities to a greater degree than is possible in co-educational schools.

Another way in which schools may be responsible for producing sex differences in achievement is through interaction patterns between teachers and students. Teachers' expectations and labelling of pupils has been found to affect achievement.[19] In Zimbabwe as elsewhere in Africa academic expectations for girls are often low and this may depress aspirations and achievement.

Schools and teachers do not operate in a vacuum but are the agents through which societal systems transmit crucial beliefs and values. Among these beliefs and values are sex role behaviours and expectations. This transmission may occur formally through the curriculum or through the school structure which assigns privileges and tasks by sex. However, many of society's values and expectations are passed on through the informal or "hidden" curriculum and as Elliot and Kelly[20] note, the "hidden curriculum" may be more important in moulding educational outcomes. Very little research has been carried out in Africa on the effects of the hidden curriculum so its implications are more those of speculation rather than the results of empirical research. What is evident from various studies is the undervaluing of the education of women in many countries with subsequent serious effects on their attainment and motivation.

Conclusions

In Zimbabwe since independence, even with the expansion of the educational system giving greater access to education for girls, inequalities between the sexes still persists. Girls are under-represented in secondary schools and they underachieve when compared with boys. While the causes for this underachievement of girls is complex and probably cumulative, the transmission of cultural values and beliefs about the sexes through early socialization in the family and secondary socialization in the school seems to be a significant contributing factor to the continued underachievement of girls in this society.

Notes and References

1. Dorsey, B. J. (1975). The African secondary school leavers. In M. W. Murphree (Ed.), *Race Education and Employment in Rhodesia* (p.94). Salisbury: Artca.

2. See also, Foster, P. (1965). *Education and social change in Ghana.* London: Routledge and Kegan Paul.; Anderson, C. A. et al (1969). *Students, teachers and opportunity perceptions in Kenya.* Chicago: University of Chicago Press.; Castle, E.B. (1966). *Growing Up in East Africa.* London: Oxford University Press.

3. Botswana is an exception to this. There, enrolment ratios by sex are nearly equal.

4. Garwe, E.R. Attitudes of parents to the education of girls. Unpublished manuscript, University of Rhodesia, Salisbury.

5. Komarovsky, M. (1953). *Women in the Modern World.* (p. 361). Boston: Little Brown and Co.

6. For a more complete treatment of the inequality of sexes see Tauris, C. and Offir, C. (1977). *The longest war.* New York: Harcourt Brace Jovanovich; Byrne, E. (1978). *Women and Education.* London: Tavistock Pub. Ltd.; Coote, A. and Campbell, (1982). *Sweet Freedom.* London: Pan Books Ltd; Sutherland, M. (1981). *Sex Bias in Education.* Oxford: Basil Blackwell Pub.; Ballantine J.

(1983). Sex, race and attempts to achieve equality of education opportunity. *The Sociology of Education.* (pp. 76-116). New Jersey: Prentice Hall, Inc.; Biraimah, K. (1987). Class, gender, and life chances: a Nigerian University case study. *Comparative Education review* (4), 570-582.

7. Dorsey, B. J. (1975). p.112. In this study 35 percent of the girls in Form IV came from High SES backgrounds versus 18 percent of the boys.

8. See also, Hughes, R. (1987). Revisiting the fortunate few: university graduates on the Kenyan labor market. *Comparative Education Review,* (4), 599. also Biraimah, K. (1987). p. 574.

9. Dorsey, B. J. (1975). p. 112.

10. Cf. Rubin, V. and Zavalloni, M. (1979). *We wish to be looked upon.* New York: Teachers College Press.

11. Similar results were also found by Clignet, R. and Foster, P. (1966). *The Fortunate few.* (p.131). Evanston: Northwestern University Press.

12. Dorsey, B. J. (1975) p. 136.

13. Dorsey, B. J. (1988). Development and reform in education: Zimbabwe a case study. Comparative Education review.

14. Zimbabwe Government. *Statistical Yearbook* 1987. (p. 66). Harare: Government Printers.

15. The pass rate refers to an individual passing five or more subjects which is necessary to achieve an O-Level Certificate.

16. A total of 318 Boys and 75 Girls sat for Chemistry and 297 Boys and 64 Girls sat for Physics.

17. Finn J., reis, J. and Dulbey, L. (1980). Sex differences in educational attainment: The process. *Comparative education Review,* (2), Part 2.

18. Dorsey, B. J. (1975). p. 147.

19. Nash R. (1978). *Teacher expectations and pupil learning.* London: Routledge and Kegan Paul.

20. Elliot, C. and kelly, G. (1980). Perspectives on the education of women in Third World nations! *Comparative Education Review.* (2), p. 7.

APPENDIX A

Cambridge School Certificate (O-Level) 1985

Academic Achievement by Subject and Gender.

N.B. All Chi-squares are significant but the association is weak.

TABLE A-1

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

ENGLISH LANGUAGE

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	1047	1.6	526	1.3	1573	1.5
B	4098	6.2	1797	4.5	5895	5.5
C	8643	13.0	3897	9.8	12540	11.8
D	11085	16.7	5604	14.0	16689	15.7
E	13421	20.2	7843	19.7	21264	20.0
U	28070	42.3	20235	50.7	48305	45.5
TOTAL	66364	100.0	39902	100.0	106266	100.0

CHI-SQUARE = 913,419 Df = 5 C =.009

TABLE A-2

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

ENGLISH LITERATURE

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	288	0.9	120	0.6	408	0.8
B	1828	5.7	854	4.5	2682	5.2
C	5166	16.0	2440	13.0	7606	14.9
D	4613	14.3	2278	12.1	6891	13.5
E	5486	17.0	2918	15.5	8404	16.4
U	14939	46.2	10191	54.2	25130	49.2
TOTAL	32320	100.1	18801	99.9	51121	100

CHI-SQUARE = 320,160 df = 5 C = .007

TABLE A-3

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

SHONA

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	939	1.9	551	1.9	1490	1.9
B	8289	16.8	5163	17.8	13452	17.2
C	12698	25.7	7823	27.0	20521	26.2
D	9521	19.2	5924	20.5	15445	19.7
E	8145	16.5	4658	16.1	12803	16.3
U	9894	20.0	4821	16.7	14715	18.8
TOTAL	49486	100.1	28940	100.0	78426	100.1

CHI-SQUARE = 149.548 Df = 5 C = .004

TABLE A-4

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

MATHEMATICS

GRADE	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	1072	1.9	100	0.3	1172	1.3
B	4514	7.9	736	2.3	5250	5.9
C	7516	13.2	1887	5.8	9403	10.5
D	4218	7.4	1463	4.5	5681	6.4
E	5184	9.1	2096	6.5	7280	8.2
U	34283	60.4	26157	80.6	60440	67.7
TOTAL	56787	99.9	32439	100	89226	100

CHI-SQUARE = 430.072 Df = 5 C = .214

TABLE A-5

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

PHYSICS

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	26	8.8	5	7.8	31	8.6
B	82	27.6	26	40.6	108	29.9
C	77	25.9	22	34.4	99	27.4
D	38	12.8	8	12.5	46	12.7
E	24	8.1	1	1.6	25	6.9
U	50	16.8	2	3.1	52	14.4
TOTAL	297	100	64	100	361	99.9

CHI-SQUARE = 14,511 df = 5 C = .197

TABLE A-6

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

CHEMISTRY

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	57	17.9	5	6.7	62	15.8
B	75	23.6	22	29.3	97	24.7
C	85	26.7	25	33.3	110	28.0
D	40	12.6	11	14.7	51	13.0
E	26	8.2	4	5.3	30	7.6
U	35	11.0	8	10.7	43	10.9
TOTAL	318	100	75	100	393	100

CHI-SQUARE = 7,486 Df = 5 C = .137

TABLE A-7

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

COMBINED SCIENCE

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	933	3.6	113	0.7	1046	2.5
B	2458	9.6	543	3.3	3001	7.1
C	3991	15.6	1221	7.4	5212	12.4
D	4508	17.6	1846	11.2	6354	15.1
E	5713	22.3	3429	20.7	9142	21.7
U	8018	31.3	9375	56.7	17393	41.3
TOTAL	25621	100	16527	100	42148	100.1

CHI-SQUARE = 333.018 Df = 5 C = .271

TABLE A-8

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

GENERAL SCIENCE

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	1441	6.0	98	0.8	1539	4.2
B	3565	14.8	566	4.6	4131	11.4
C	4393	18.3	1143	9.4	5536	15.3
D	5357	22.3	2246	18.4	7603	21.0
E	5334	22.2	3671	30.1	9005	24.8
U	3968	16.5	4471	36.7	8439	23.3
TOTAL	24058	100.1	12195	100	36253	100

CHI-SQUARE = 332.953 Df = 5 C = .290

TABLE A-9

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

BIOLOGY

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	449	11.8	124	5.0	573	9.1
B	901	23.7	336	13.6	1237	19.7
C	845	22.2	427	17.3	1272	20.3
D	443	11.6	298	12.1	741	11.8
E	397	10.4	330	13.3	727	11.6
U	769	20.2	957	38.7	1726	27.5
TOTAL	3804	99.9	2472	100	6276	100

CHI-SQUARE = 368,696 Df = 5 C = .236

TABLE A-10

Cambridge School Certificate (O Level) 1985

Academic Achievement by Subject and Gender

HUMAN AND SOCIAL BIOLOGY

Grade	BOYS		GIRLS		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%
A	45	1.2	15	0.4	60	0.8
B	350	9.1	134	3.5	484	6.3
C	667	17.4	427	11.1	1094	14.2
D	508	13.2	399	10.4	907	11.8
E	642	16.7	652	16.9	1294	16.8
U	1632	42.5	2223	57.7	3855	50.1
TOTAL	3844	100.0	3850	100.0	7694	100.0

HI-SQUARE = 267,824 Df = 5 C = .183